

Safety and Compliance Tools

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Anhydrous Ammonia

Safe Handling in the Retail
Fertilizer Market



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Safe Handling of Anhydrous Ammonia

- 2004 crop year used 646,954 tons
- Over 800 retail locations
- Refrigeration use is unknown



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Transporting Anhydrous Ammonia

- Rail car
- Truck

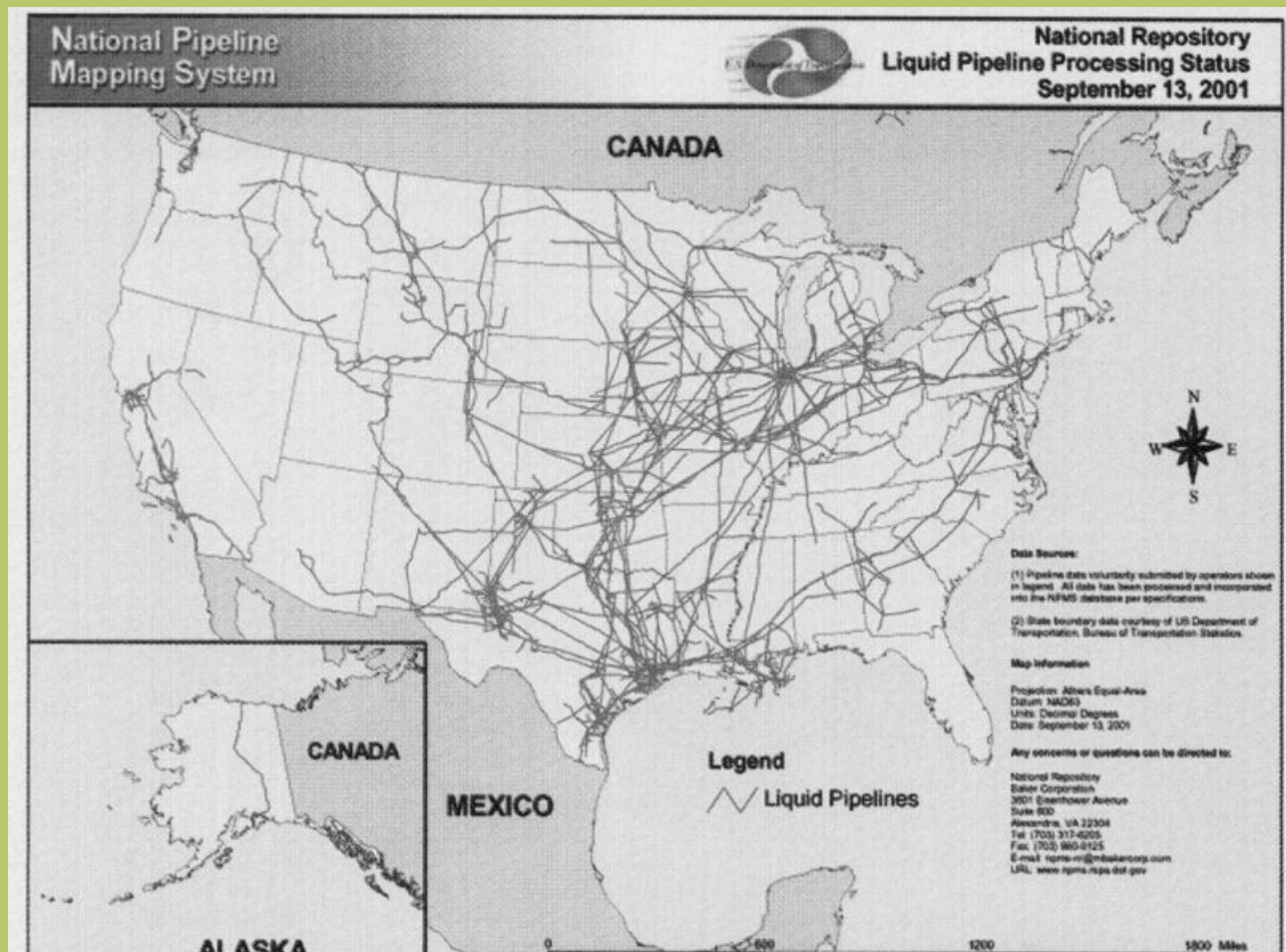


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Pipelines



Retail Facility

- Facility receives NH_3 by
 - Train car
 - Truck transport



Retail Facility Safeguards

- Annual training required by law
 - Properties and characteristics
 - Safe handling practices
 - Emergency response



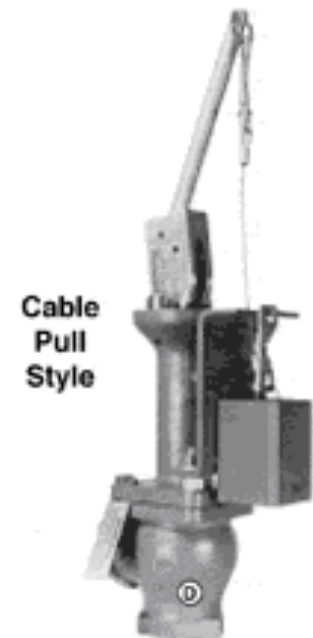
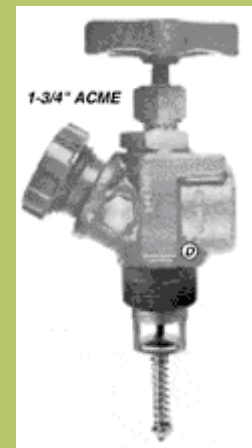
Retail Facility Safeguards

- Annual facility inspections by IDALS
- ANSI Standards adoption
- Equipment updates
- Maintenance



Retail Facility Safeguards

- Equipment
 - Valves
 - Emergency shutoffs
 - Pressure relief valves



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Retail Facility Safeguards

- Replacement of relief valves:
 - Pressure relief
 - Hydrostatic relief
- Excess flow valves



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Transfer Process

- Liquid pump
- Compressor
- Fill nurse tanks



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Transfer Safeguards

- Excess flow valves
- Breakaway couplers

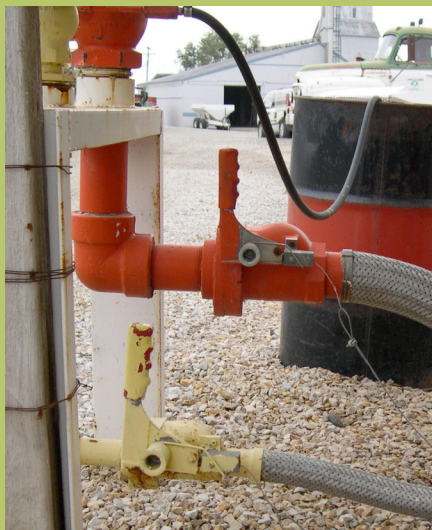


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Transfer Safeguards

- Pressure by pass valve
- Emergency shut off valves



Safety Equipment

- Ammonia proof gloves
- Non vented goggles
- Canister respirators



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Accidents do happen!



Reserved for

Safe Agricultural Resource

- Anhydrous ammonia is safe
- When handled properly
- By trained individuals

